4 - 50 Melatonin Alleviates X-ray Radiation Induced Olfactory Bulb Injure

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The olfaction loss caused by nasopharyngeal carcinoma radiotherapy is a serious side effect. Melatonin was used to protect CNS from radiation due to its high anti-inflammation properties[1]. The balb/c mouse was treat by melatonin (10 mg/kg) with intranasal administration 1 h after X-ray radiation. And the odor threshold of irradiated mouse was measured by different concentration of propionic acid vapor. Results shown that the odor threshold of mouse was raised (Fig. 1(a)) after X-ray radiation (>2 Gy). However, the odor threshold of irradiated mouse that was treated by melatonin only raised after high dose radiation (>10 Gy). It implied that melatonin alleviates X-ray radiation caused olfactory bulb injure.

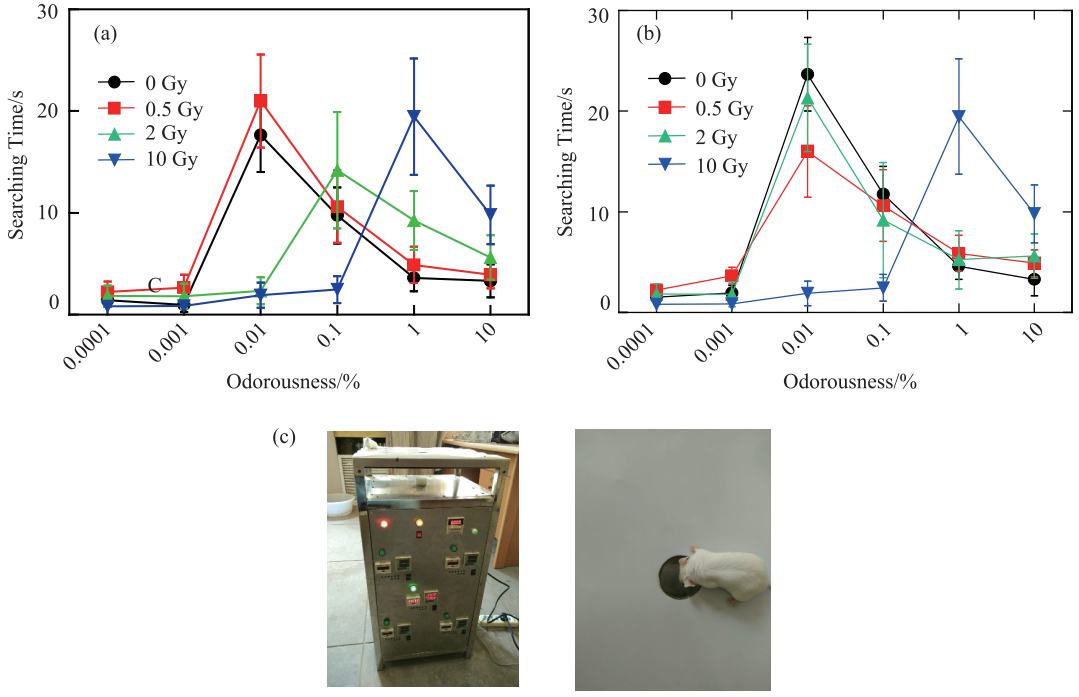

Fig. 1 (color online) The odor threshold of mouse was measured by different concentration of propionic acid vapor. X-ray radiation group (a) and X-ray radiation+ melatonin treatment group (b). (c) photograph of the odor threshold measurement device.

Reference

[1] M. Najafi A. Shirazi, E. Motevaseli, et al., Inflammopharmacology, (2017)1.